

WHAT IS CLAIMED IS:

1. An electric discharge gas laser comprising:

a housing containing a gas used for generating a laser beam;

a rotating fan provided in the housing to circulate the gas in the housing, the rotating fan having a rotating shaft;

a bearing device for magnetically supporting the shaft of the rotating fan in a floating condition, the bearing device being provided with a sensor device comprising a sensor for sensing the position of the rotating shaft relative to the bearing device to generate signals indicating the position of the rotating shaft, and a signal processor for receiving and processing the signals delivered from the sensor to output processed signals; and

a control separated from the bearing device and functionally associated with the bearing device to receive the processed signals from the sensor device for controlling the bearing device on the basis of the processed signals.

2. An electric discharge gas laser as set forth in claim 1 in which:

said signal processor processes the signals delivered from the sensor so as to output the processed signals at a predetermined level of sensing sensibility of the sensor device.

3. An electric discharge gas laser as set forth in claim 2 in which:

said signal processor includes a circuit for generating and delivering signals indicating a displacement of rotation shaft from a target position thereof on the basis of the signals delivered from the sensor and a gain controllable amplifier for adjusting an amplitude of the signals delivered from the above-noted circuit.

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